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Item 12 of the provisional agenda

Regulation No. 129 (Enhanced Child Restraint Systems)

Proposal for Supplement 11 to the 03 series of amendments and Supplement 1 to the 04 series of amendments to UN Regulation No. 129 (Enhanced Child Restraint Systems) *

Submitted by the expert from the European Association of Automotive Suppliers

The text reproduced below was prepared by the expert from the by the expert from European Association of Automotive Suppliers (CLEPA) aiming to clarify the conditions under which Enhanced Child Restraint Systems must be tested in a vehicle body shell. This proposal is a further development of GRSP-73-42, distributed at the seventy-third session Working Party on Passive Safety (GRSP). In addition, it corrects an editing mistake made during the introduction of Supplement 3 to the 03 series. The modifications to the current text of the UN Regulation (including ECE/TRANS/WP.29/2023/109) are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2023 as outlined in proposed programme budget for 2023 (A/77/6 (Sect. 20), table 20.6), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



I. Proposal

Paragraph 6.1.3.4., amend to read:

"6.1.3.4. Enhanced Child Restraint Systems of the booster seat and booster cushion categories shall have **only one adult safety-belt route and** a main load-bearing contact point, between the Enhanced Child Restraint System and the adult safety belt. This point shall not be less than 150 mm from the Cr axis when measured with the Enhanced Child Restraint System on the dynamic test bench installed in accordance with paragraph 7.1.3.5.2.2. of this Regulation, without a dummy. This shall apply to all adjustment setups and webbing paths."

Paragraphs 6.6.4. to 6.6.4.1.2.3., amend to read:

"6.6.4. Dynamic test

6.6.4.1. General: The dynamic test shall be performed on Enhanced Child Restraint Systems which have not previously been under load and the Enhanced Child Restraint System shall be subjected to dynamic tests, in accordance with Table 3, in conformity with paragraph 7.1.3. below:

Table 3

Application of different criteria depending on test set up

<i>Frontal impact</i>				<i>Rear impact</i>		<i>Lateral impact</i>	
<i>Test on trolley+ standard seat</i>		<i>Test in car body</i>		<i>Test on trolley+ standard seat</i>	<i>Test in car body</i>	<i>Test on trolley+ standard seat</i>	
Forward facing	Rearward and lateral facing	Forward facing	Rearward and lateral facing	Rearward and lateral facing	Rearward and lateral facing	Forward facing	Rearward and lateral facing

Note 1: Standard seat means a test seat or test bench as defined in Annex 6.

Note 2: For lateral facing Enhanced Child Restraint Systems in lateral impact, if two positions are possible, then the dummy's head shall be situated near the side door.

- 6.6.4.1.1. i-Size **and Universal** category Enhanced Child Restraint Systems shall be tested on the test bench prescribed in Annex 6, and in conformity with paragraph 7.1.3.1. below.
- 6.6.4.1.2. ~~Enhanced Child Restraint Systems of the specific vehicle categories shall be assessed for fit with each vehicle model for which the Enhanced Child Restraint System is intended. The Technical Service responsible for conducting the test may reduce the number of vehicle arrangements tested if they do not differ greatly in the aspects listed in paragraph 6.6.4.1.2.3. of this Regulation. This Specific Vehicle~~ Enhanced Child Restraint Systems shall be dynamically tested in one of the following ways:
- 6.6.4.1.2.1. **Specific Vehicle** Enhanced Child Restraint Systems according to paragraph 2.7. and in conformity with paragraph 6.3. of this Regulation and which fit in at least an envelope defined in UN Regulation No. 16, Annex 17, Appendix 2, and which **that attach to the car using the adult seat belt or using ISOFIX attachments that comply with paragraph 6.3.3., shall be dynamically tested** on the test bench prescribed in Annex 6 and in conformity with paragraph 7.1.3.1. of this Regulation. **This shall apply to Specific Vehicle ISOFIX ECRS only if they are equipped with an anti-rotation device that conforms to paragraph 6.3.4. or 6.3.5. Alternatively, these Specific Vehicle ECRS can be tested** ~~or~~ in a vehicle body shell in conformity with paragraph 7.1.3.2. of this Regulation.
- 6.6.4.1.2.2. ~~For Specific Vehicle~~ Enhanced Child Restraint Systems which are in conformity with paragraph 6.3. of this Regulation (for example ECRS using no anti rotation device or using additional anchorages) or do not fit in any

envelope defined in UN Regulation No. 16, Annex 17, Appendix 2, that use attachment methods not defined in this regulation shall be dynamically tested ~~on the test trolley~~ in a vehicle body shell in conformity with paragraph 7.1.3.2. or in a complete vehicle in conformity with paragraph 7.1.3.3. of this Regulation. **Notwithstanding paragraph 6.6.4.1.2.2.1. below, these tests shall be carried out for each vehicle specified in the ECRS car fitting list. This also applies to Specific Vehicle ISOFIX ECRS that are not equipped with an anti-rotation device that conforms to paragraph 6.3.4. or 6.3.5. and instead use the vehicle seat cushion to limit the pitch rotation of the ECRS in a front impact.**

- 6.6.4.1.2.3.2.1. ~~Using~~ **Before the dynamic test in a vehicle body shell, the Enhanced Child Restraint System shall first be assessed for fit with every vehicle specified in the ECRS car fitting list. The Technical Service shall then ensure that sufficient parts of each—the vehicle body shell are used in the dynamic test to be representative of the vehicle structures and impact surfaces, including the vehicle seat cushions and underlying structures.** If the Enhanced Child Restraint System is intended for use in the rear seat, these shall include the back of the front seat, the rear seat, the floor pan, the B and C pillars and the roof. If the Enhanced Child Restraint System is intended for use in the front seat, the parts shall include the dashboard, the A pillars, the windscreen, any levers or knobs installed in the floor or on a console, the front seat, the floor pan and the roof. The Technical Service responsible for conducting the **dynamic** test may permit items to be excluded if they are found to be superfluous. **The Technical Service may also reduce the number of vehicles tested if they do not differ greatly in the aspects listed above. However, testing at simple extremes of differences in dimensions or material properties is not allowed.** Testing shall be as prescribed in paragraph 7.1.3.2. of this Regulation, except for lateral impact.2

Annex 27, amend to read:

"Annex 27

Type Approval Test Report Template

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8.1 *Minimum Dynamic Test Information (per test)*

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Sled Type (Deceleration/Acceleration)

Test Bench Type (Test on trolley+standard seat/Test in car body)

If testing in car body, specify make/model

Impact Speed

km/h

...

"

II. Justification

1. Supplement 3 to the 03 series of amendments to UN Regulation No. 129 added provisions for booster cushions. This included an amendment to paragraph 6.1.3.4. to refer to booster cushions (alongside an existing reference to booster seats). During the amendment of paragraph 6.1.3.4., the requirement to have one belt route on boosters was inadvertently deleted. Although this requirement is also made in paragraph 3.2.2., it is preferable to reinsert it in paragraph 6.1.3.4., for consistency.
 2. Informal Document GRSP-73-18 submitted by the Netherlands at the seventy-third session of GRSP proposed modifications to their Working Document ECE/TRANS/WP.29/GRSP/2023/13. These modifications included an additional sentence to paragraph 6.6.4.1.2.1. to clarify the conditions under which the dynamic test must be carried out on a vehicle body shell instead of the test bench. CLEPA supported this initiative from the Netherlands, but also believed that a broader amendment of paragraph 6.6.4.1.2 (including both 6.6.4.1.2.1. and 6.6.4.1.2.2.) was needed to make the intent of the regulation absolutely clear. Accordingly, CLEPA submitted Informal Document GRSP-73-42 that set out this further clarification in support of the Netherlands' proposal. As documented in the Report of the Working Party on Passive Safety on its seventy-third session, the secretariat was requested to distribute GRSP-73-42 with an official symbol at its next session. This Working Document reflects that request.
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